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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Applicant: Hidenori WADA et al.

Serial No. 09/911,143 Group Art Unit: 2627

Filed: July 23, 2001 Examiner: Jorge L. Ortiz-Criado

Title: OPTICAL ELEMENT, OPTICAL HEAD, OPTICAL
RECORDING/REPRODUCING APPARATUS AND OPTICAL
RECORDING/REPRODUCING METHOD

DECLARATION UNDER 37 C.F.R.1.132

HON.COMMISSINER OF PATENTS AND TRADEMARKS
WASHINGTON,D.C.20231

SIR:

I, Keiichi MATSUZAKI, hereby declare as follows:

I entered Kanazawa University, master's course in engineering in 1992 and majored in electrical/information technology, and received the master's degree in 1994. In 1994, I joined Matsushita Electric Industrial Co., Ltd, and assigned to Materials and Device research laboratory at Development Center. From 1994 to 1998, I had been engaged in development of DVD (Digital Versatile Disc)-compatible optical pickups and optical devices used therefor. Since 1998 I have been engaged in development of BD (Blu-ray Disc)-compatible optical pickups and optical devices used therefor.

I hereby declare that a person of ordinary skill, at the time this application was filed, would have recognized that the "administrative information" discussed in the specification of the present application included "at least one of a recording and reproducing condition" as presently recited in claim 34. The reasons are discussed in detail below.

In the specification of the above-identified patent application, it is described as the effects of the present invention that a distance from a surface of an optical recording medium having a plurality of recording layers (multilayer optical recording medium) on a side where a laser beam is incident to a first recording layer is the same as a distance from a surface of an optical recording medium with only one recording layer (single-layer optical recording medium) on a side where a laser beam is incident to the recording layer and "administrative information" is recorded in the first recording layer, and therefore the "administrative information" can be reproduced with the spherical aberration correction means still in the initial state (see Fig. 12A and page 27, line 30 to page 30, line 11 of the original specification). This is evident from the following descriptions in the original specification of the present application.

"It is preferable that the administrative information of the second optical recording medium 122 is recorded in the second recording layer B, for which the base material thickness is equivalent to the base material thickness "a". With this configuration, the administrative information of the optical recording medium 122 can be reproduced with the spherical aberration correction means still in the initial state." (see page 28,

lines 14 to 19, Fig. 12A) .

"The following explains how the optical recording/reproducing apparatus 116 of Embodiment 5 operates. First, when the optical recording medium 121 or 122 is set on the motor 117, the processing circuit 118 lets the motor 117 rotate. Then, in the initial state before performing recording or reproducing, the processing circuit 118 drives the spherical aberration correction means such that it corrects the spherical aberration for the base material thickness "a" without deciding whether the set optical recording medium is the optical recording medium 121 or 122." (page 28, lines 29 to 37).

For a supplementary explanation, the distance from a surface of the single-layer optical recording medium on a side where a laser beam is incident to the recording layer is usually $100\text{ }\mu\text{m} \pm 10\text{ }\mu\text{m}$ (page 3, lines 2 to 3 of the original specification). In the illustrated example of Fig. 12A, for example, this corresponds to "a". In the case where recording/reproducing is performed with respect to a multilayer optical recording medium using an optical recording/reproducing apparatus used for the above-stated single-layer optical recording medium, if a distance from a surface of the multilayer optical recording medium on a side where a laser beam is incident to any one of the plurality of recording layers (claim 34 recites this as "a first recording layer") is not the same as the distance from a surface of the single-layer optical recording medium on a side where a laser beam is incident to the recording layer, a judgment is required concerning between a single recording layer or a plurality of recording layers before recording/reproducing

of information by the recording/reproducing apparatus, and thereafter a spherical aberration correction means is driven in order to correct the spherical aberration. The correction by the spherical aberration correction means in this case cannot be performed in the initial state. Next, following the focus control by a focus control means, information can be recorded/reproduced with respect to the multilayer optical recording medium. Furthermore, even after the correction of the spherical aberration and the focus control, a so-called normal information cannot be recorded/reproduced unless "a recording/reproducing condition" is read out.

According to the optical recording medium of the present invention, a distance from a surface on a side where a laser beam is incident to the first recording layer on which "administrative information" is recorded is the same as a distance from a surface of a single-layer optical recording medium on a side where a laser beam is incident to the recording layer, i.e., $100\text{ }\mu\text{m} \pm 10\text{ }\mu\text{m}$. Therefore, without the requirement for judgment concerning between a single recording layer or a plurality of recording layers, the "administrative information" can be reproduced while leaving the spherical aberration correction means still in the initial state. Thereby, according to the present invention, the time before the focus control can be shortened, and the time until recording or reproducing of the information with respect to the first recording layer is started can be shortened (see page 30, lines 2 to 11 of the original specification).

Furthermore, as described above, since a so-called normal information cannot be recorded/reproduced until "a

recording/reproducing condition" is read out, if the "administrative information" recorded in the first recording layer were a so-called normal "information", the effect of shorting a time until the recording/reproducing of information with respect to the first recording layer is started could not be obtained. Those skilled in the art would understand this from the overall description of the specification of the present application (especially, see Fig. 12A and page 27, line 30 to page 30, line 11).

Note here that although the above-description exemplifies the optical information recording medium illustrated in Fig. 12A, the optical information recording medium of the present invention is not limited to the embodiment of Fig. 12A. The first recording layer of Claim 34 does not have to be the first layer counted from the side where a laser beam is incident, and may be the second layer or later. This can be understood from the following descriptions of the original specification of the present application:

"The base material thickness for the recording layer A (that is, the distance from the surface 121s to the recording layer A) is denoted by "a" in Fig. 12A. The base material thicknesses for the recording layers B and C (that is, the distances from the surface 122s to the recording layers B and C) are denoted respectively by "b" and "c" in Fig. 12B. In the optical recording/reproducing apparatus of Embodiment 5, one base material thickness of the second optical recording medium 122 (i.e. "b" or "c") is equivalent to the base material thickness "a". Fig. 12A illustrates the case that the base material thickness "a" is equivalent to the base material thickness "b". These base material thicknesses are the total thickness of the

substrate and the layers formed between the substrate and the recording layer (such as a UV cured resin). The recording layer is made of a phase-changing material whose refractive index changes when a phase change between the crystalline phase and the non-crystalline phase occurs." (page 27, line 37 to page 28, line 13 of the original specification of the present application)

As stated above, it is clear that "administrative information" includes at least one of a recording and reproducing condition of the optical recording medium.

I declare under the penalty of perjury of the law of the United States of America that the foregoing is true and correct to the best of my information and belief.

Signed this October 18, 2006, at Osaka, JAPAN

Keiichi Matsuzaki

Keiichi MATSUZAKI